

Work Order ID 132947

132947

Page 1

Wednesday, May 20, 2015 11:29:17 AM

Item ID: D3685-041 Accept *N900040100* Setup Start *NS1*
Revision ID: Stop *NS2*
Item Name: Bipod Mount Ass'Y
Start Date: 5/20/2015 Start Qty: 2.00 *2* Cust Item ID:
Required Date: 5/20/2015 Req'd Qty: 2.00 *2* Customer:
Reference:

Approvals: Process Plan: MJS Date: MAY 20 2015 Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr								
D3685	F								

100	Pick Kit	0.00							
100						2	FF		AUG 17 2015
Packaging	Memo	0.00							
Packaging									

110	Small Fab	0.00							
110						2	FF		AUG 17 2015
Small Fab	Memo	0.00							
Small Fab									

1-Align the pilot holes in mating parts. Drill out each hole using pilot drill and ream each hole using a step reamer. Clean and deburr all holes prior to assembly as per dwg. (SEE NOTE 8)

AFTER FINISH DRILLING AND REAMING PARTS MUST STAY TOGETHER. DO NOT MIXE THEM UP

2-Assemble D3684-049/-047 & D3687-3 Using Hysol EA934NA or MAGNOBOND 6398 adhesive between mating surfaces as per Dwg D3684

MAGNOBOND BATCH: _____

Hysol EA934NA! w 131581

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC5- Inspect part completeness to step on W/O	0.00							
120									
QC	Memo	0.00							DAS 38
Quality Control									AUG 17 2015
130	Identify as per dwg & Stock Location: ST237	0.00							
130									
Packaging	Memo	0.00							27 8-29
Packaging									JA AUG 21 2015
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							MLJ AUG 24 2015
Quality Control									

MLJ AUG 24 2015

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐			

Picklist Print

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Work Order ID: 132947

132947

Parent Item: D3685-041

D3685-041

Parent Item Name: Bipod Mount Ass'Y

Start Date: 5/20/2015

Required Date: 5/20/2015

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A new issue 08-02-12 DD verified by:LL
 IPP Rev:B As per Rev B 09-01-07 JLM Verified By:EC IPP
 REV:C AS PER REV D 10-03-16 JLM VERIFIED BY:EC
 IPP Rev:C Added sealant note as per Rev C 09-01-20 JLM Verified By:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D3684-047		Manufactured	No				Each	11.0000		2			
D3684-047									**			FF	AUG 17 2015
Fwd Leg Assembly													

Location	Loc Qty	Loc Code
ST231B	11	
102870	1	
122956	2	
125179	4	
126843	1	
128434	1	
130938	2	

D3684-049		Manufactured	No				Each	9.0000		2			
D3684-049									**			FF	AUG 17 2015
Aft Leg Assembly													

Location	Loc Qty	Loc Code
ST231B	9	
109469	2	
122568	3	
122958	2	
125182	1	
128435	1	

D3687-3		Manufactured	No				Each	8.0000		2			
D3687-3									**			FF	AUG 17 2015
Mount													

Location	Loc Qty	Loc Code
GA	8	
93757	8	

2

DQA: _____ Date: _____



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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Parent Item: D3685-041

D3685-041

Parent Item Name: Bipod Mount Ass'Y

Start Date: 5/20/2015

Required Date: 5/20/2015

Start Qty: 2.00

Required Qty: 2.00

HL32PB8-14

Purchased

No

Each

160.0000

8

HI 32PB8-14

Replacement Hi-Lok Pin

FF

AUG 17 2015

Location

Loc Qty

Loc Code

ST554

160

125436

12

m128179

48

m128454

100

8

HL86-8

Purchased

No

Each

171.0000

8

HI 86-8

Collar

FF

AUG 17 2015

Location

Loc Qty

Loc Code

st555

171

m126267

21

m127815

50

m131803

100

8

DQA: _____ Date: _____



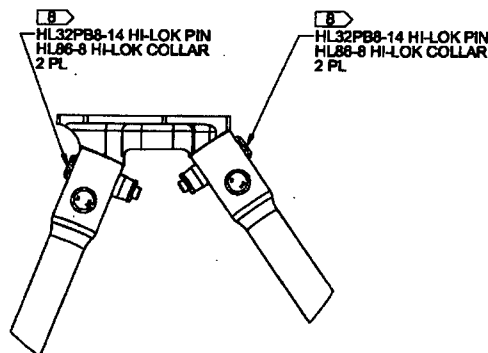
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

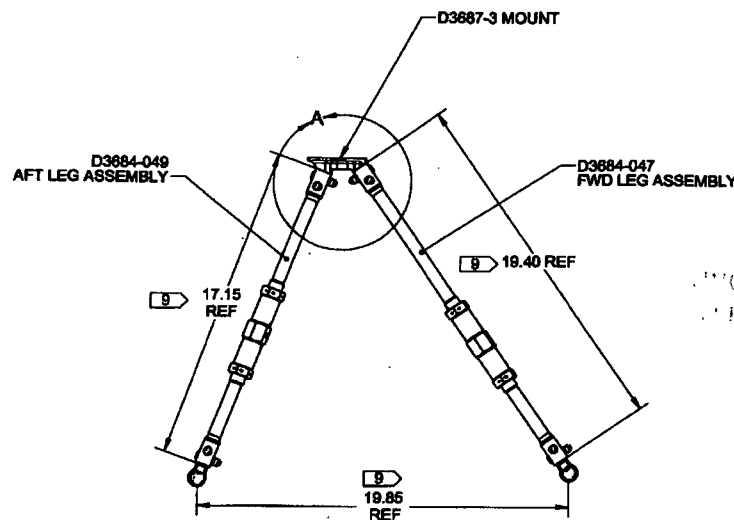
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date: _____		Step #: _____		QTY Effective: _____			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
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Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER: _____			

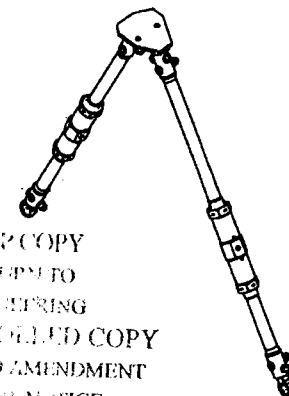
ITEM	QTY -041	PART NUMBER	DESCRIPTION
	X	D3685-041	BIPOD MOUNT ASSEMBLY
1	1	D3687-3	MOUNT
2	1	D3684-047	FWD LEG ASSEMBLY
3	1	D3684-049	AFT LEG ASSEMBLY
4	4	HL32PB8-14	HI-LOK PIN
5	4	HL86-8	HI-LOK COLLAR



DETAIL A
SCALE 3X



D3685-041 BIPOD MOUNT ASSEMBLY



STOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
ISSUED NOTICE
WORK ORDER
132947 MJS

15-05-20
RELEASED
R 2013-12-08

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART ASSEMBLY P/N D3685-041 PER DART QSI 044 6.1 (FINE POINT PAINT MARKER)
- 7) WEIGHT: 6.68 lbs
- 8) ALIGN THE PILOT HOLES IN MATING PARTS. DRILL OUT EACH HOLE USING A P/N 13-420 PILOTED DRILL (0.2314 DIA/0.2158 PILOT). REAM EACH HOLE USING A P/N 44-300 STEP REAMER (0.247 DIA/0.2314 PILOT). CLEAN AND DEBURR ALL HOLES PRIOR TO ASSEMBLY. ASSEMBLE D3684-047/-049 WITH D3687-3 USING HYSOL EA934NA OR MAGNOBOND 6398 ADHESIVE BETWEEN MATING SURFACES. HI-LOK PIN ORIENTATION AS PER DETAIL 'A'.
- 9) DIMENSIONS SHOWN ARE WHEN D3688-1/-3 & D3689-041 STUDS ARE FULLY THREADED INTO D3689-1 SLEEVES

F	ADD DETAIL A. REVERSE THE INSTALLATION ORIENTATION OF HI-LOK PINS TO FACILITATE ASSEMBLY PROCEDURE. CORRECT BOM TABLE	DB	13.11.18
E	REMOVE AN3C-12A BOLT, D3682-1 SPACER AND MS21043-3 NUT. REPLACE WITH HL32PB8-14 HI-LOK PIN. HL86-8 HI-LOK COLLAR (ZN CS-1, ZN CS-1). RE-FORMAT NOTES SECTION AS PER QSI 044. CHANGE ASSEMBLY ADHESIVES. NOTES (ZN AS-1). CHANGE BOM TABLE TO REFLECT NEW ASSEMBLY STRUCTURE. (ZN D8-1) REF NCR 12-2074	DB	12.12.05
F	17.15 WAS 17.27 (ZN B6-1); 19.40 WAS 19.52 (ZN B4-1); 19.85 WAS 20.24 (ZN B5-1)	RF	10.03.03
C	NOW ASSEMBLED USING SEALANT (ZN AB-1, C4-1)	RF	08.12.15
B	19.52 WAS 19.85 (ZN B4-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.12.14
A	NEW ISSUE	RF	08.05.22
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DB		
CHECKED	A.V.	DRAWING NO.	REV. F
MFG. APPR.	AS	D3685	SHEET 1 OF 1
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	BIPOD MOUNT ASSEMBLY	NTS
DATE	13.11.18	COPYRIGHT © 2018 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS NOT TO BE USED FOR ANY PURPOSE OR DISCLOSED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	